REMARKS

The specification has been amended so as to correct an inadvertent typographical error.

If any fees are required in connection with this case, it is respectfully requested that they be charged to Deposit Account No. 02-0184.

Respectfully submitted,

FRANK FILSER ET AL.

By ____________________

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3/27/03

The material is preferably removed from a blank using milling tools with geometrically determined cuts at rotation speeds in the range from preferably 10,000 to 50,000 rpm, an infeed of preferably >0.5 mm, in particular 1 - 15 mm, and an advance speed of preferably >3 cm/sec, in particular 3.5 - 10 cm/sec.

The production of the skeletal structure, enlarged in relation to the positive model, from the material of the blank is completed by distal or mesial separation of the skeletal structure from the rest of the blank. At the separating points a slight manual retouching known as polishing may be required.

The finished machined enlarged skeletal structure is dense-sintered. Depending on the material used and powder morphology, the temperatures normally vary in the range from 1100 ~~11,000~~ to 1600 ~~16,000~~ °C. So a density from 90 to 100% of the theoretically possible density, preferably a density from 96 to 100% of the theoretically possible density, in particular more than 99% of the theoretically achievable density can be achieved. During sintering the skeletal structure shrinks linearly without further deformation or distortion. This allows sinter baking without the sinter stump also contracting. The shrinkage S is calculated according to equation (1) from the relative density of the blank ρ_R before sintering and the achievable relative density ρ_S after sintering:

$$s = \sqrt[3]{\frac{\rho_R}{\rho_S}} - 1 \qquad (2)$$

After sintering, the shrunken ceramic skeletal structure is given a coating of porcelain or plastic in a conventional bake-on process at temperatures of 700 to 1100°C. One or more layers of porcelain or plastic can be applied. Thus the

tooth crown or tooth bridge is given an individual appearance. The tooth crown or tooth bridge is then attached to the prepared dental stump by cement where conventional cementing materials and preparation procedures are used.

The advantages of the process according to the invention can be summarised as follows:

- High quality and precisely dimensioned, dense-sintered fully ceramic tooth crowns and/or bridges can be produced in a low cost, simple and safe process. Homogeneous blanks are essential for safe and simple production process.

- The individualised tooth crowns and/or tooth bridges to fit on prepared dental stumps resist the high loads in the side tooth area and also fulfil the aesthetic requirements of the patient in the front tooth area. In particular in the case of tooth bridges, the aim is high separation i.e. with a gracile form between the bridge elements, a structure at least comparable to metal ceramic tooth bridges can be achieved, which is required by dentists for aesthetic, hygienic and phonetic reasons.

With regard to the blank of porous ceramic, the task is solved according to the invention in that on the blank itself, its packing, an attachment label or a packing leaflet, an identification code legible by machine or with human sensory organs can be applied, which contains data for individual input of the compensating enlargement factor f.

Porous blanks of ceramic for the production of skeletal structures for tooth crowns and/or bridges can be made of various metal compositions, in particular from at least one metal oxide powder of the group consisting of Al_2O_3, TiO_2, MgO, Y_2O_3 and zircon oxide mixed crystal $Zr_{1-x}Me_xO_{2-(\frac{4n}{2})x}$ where Me is a metal present in oxide form